

BETTII: The Balloon Experimental Twin Telescope for Infrared Interferometry

Astronomical studies at infrared wavelengths have dramatically improved our understanding of the universe. The relatively low angular resolution of these missions, however, is insufficient to resolve the physical scale on which mid-to far-infrared emission arises. We will build the Balloon Experimental Twin Telescope for Infrared Interferometry (BETTII), an eight-meter Michelson interferometer to fly on a high-altitude balloon. BETTII's spectral-spatial capability, provided by an instrument using double-Fourier techniques, will address key questions about the nature of disks in young star clusters and active galactic nuclei and the envelopes of evolved stars. BETTII will also lay the technological groundwork for future space interferometers.